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ABSTRACT

The Summer Program objectives were to increase pupil competency by providing remedial and corrective instruction in reading and mathematics for children who were likely to be held back, needed strengthening in basic skills, or were one or more years below grade level in reading or math achievement. Eight elementary and junior high schools participated, servicing 624 students in grades one through nine. The elementary reading and math program focused on reteaching basic concepts and skills that children had not mastered. On the junior high level, reading and math instructional techniques were geared toward the development of sequential learning. Communication skills were the foundation of the program. Process evaluation findings indicated that the program operated in an effective manner. Quantitative evaluation, based on criterion referenced tests, was completed separately for each grade level. Findings indicated a high degree of mastery of objectives at each level. Recommendations and test results are included. (MK)

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EVALUATION OF TITLE I SUMMER SCHOOL PROGRAM

COMMUNITY SCHOOL DISTRICT 31, NEW YORK CITY

Summer - 1979

District 31 Summer Program
Function Numbers

5001 31 01602
5001 31 01603

Prepared by: Dr. Michael E. Knight

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I. INTRODUCTION

This program was designed to improve reading and mathematics achievement by direction and intervention toward diagnosed deficiencies. These are the first and second priorities established by the State Department of Education. The program objectives were to increase pupil competency by providing remedial and corrective instruction in Reading and Mathematics for those children whose academic achievement placed them in the three priority categories as follows: those children in grades 1-9 who were likely to be held over in June 1979; those children in terminal grades (5, 6, 8, 9) who needed strengthening in basic skills development before entering an I.S./JHS, or H.S. in September 1979; those children who were one or more years below grade level in reading as measured by the 1979 city-wide reading tests.

Eight schools identified in the project proposal participated in the program. The eight schools participating in the program were: P.S. 14, P.S. 16, P.S. 18, P.S. 31, P.S. 44, J.H.S. 49, P.S. 57, and I.S. 61.

Table I provides the enrollment of participants by grade level.

TABLE I

Enrollment in the Summer School Program

Grade	Enrollment
1	61
2	88
3	93
4	91
5	52
6	52
7	99
8	41
9	27
TOTAL	624

II. EVALUATION DESIGN

The quantitative objective of this program was to have at least 70% of the children achieve mastery on each of the two specific objectives selected in reading and in mathematics. The specific objectives were selected after the administration of a sufficient number of objectives during a pretest to determine which objectives would be appropriate.

The Prescriptive Reading Inventory was used to evaluate the reading component of the program. The Diagnostic Mathematics Inventory was used to evaluate the mathematics component of the program.

The primary qualitative evaluation was provided through observer ratings on a checklist designed for this program. A sample of this checklist and the results of its use are presented in Table II.

The sample used for the evaluation consisted of the total number of participants in the eight schools who received the pretest and the posttest.

III. PROGRAM IMPLEMENTATION

Staffing

All positions in this program were filled by appropriately qualified personnel. Each of the schools had a supervisor and a school secretary. Five of the schools had four teachers assigned at the beginning of the program and the three remaining schools had five teachers assigned.

Elementary School Reading and Math Program

The major thrust of the elementary school reading and math program was to provide individualized and small group instruction to remediate those deficiencies indicated as "needs". These deficiencies were identified on the

child's application for summer school. Emphasis was placed on re-teaching those basic concepts and skills in which the child had demonstrated an inability to perform satisfactorily. The approach to remedial instruction was many faceted. That is, the approaches included other curriculum areas (Social Studies, Geography, Science, Health and Nutrition) all of which provided the pupil with the necessary motivation and interest needed for successful performance and learning. Special attention was given to oral and written language development; reading comprehension; auditory discrimination; listening comprehension; phonetic and structural analysis. Children were encouraged to do independent reading. A library corner was established in some classrooms for this purpose. Teachers made arrangements with the local Public Library for visits. The mathematics program provided small group, individualized instruction. The activities were designed with consideration given to: skills or behaviors needed by the learner; methods used to help the learner acquire those skills; determining the learners progress towards mastery of those skills. Instructional objectives, or learner objectives were designed for each skill to be taught, retaught, and mastered. The development of concepts and generalizations in mathematics as an ongoing process - from the simpler to the complex. The pupils application and school year teachers comments served to assist in the identification of the learner's level of concept development in arithmetic. Additional diagnostic information came for the child's pretest score. Instructional methodology utilized experience situations and concrete materials for building number meanings and relationships. For most children, mathematical learning proceeds from <u>things</u> to various typs of representations, to mathematical symbols. When a child has exhibited mastery at this level - symbols

were used to show relationships as the child uses materials. Utilization of manipulative material was encouraged. The content of arithmetic dealt with teaching, review and reteaching, where necessary; the concepts and techniques of each of the fundamental operations with whole numbers, common fractions, denominate numbers and decimals - depending upon the learners level of competency and understanding.

The district developed activities and lessons in health and nutrition. The range of activities included a tasting party; individual or class notebooks, cookbooks; a talk on food by someone in the class or community who has lived in another country. To enhance specific skills there were opportunities in arithmetic to figure out costs of food, make change, take measurements of heights and weights to develop communication skills. Classroom teachers used the ideas given above and integrated Health and Nutrition activities along with remedial instruction in reading and mathematics.

I.S./J.H.S. Reading and Math Program

All instructional techniques were geared toward the development of sequential learning, the student progressed in small steps thus the learning of one particular facet was cemented before the student progressed further. Instruction in communication skills was the foundation of the program. Supportive corrective reading teachers provided instructional service at I.S. 61 and J.H.S. 49. The instructional design provided specific and concentrated experiences for the development of crucial reading skills: Working with Sounds, Following Directions, Using the Context, and Detecting Sequence. Materials were also used to improve skills in learning word meanings from context, selecting

main ideas, drawing inferences, choosing between fact and fiction, word study skills.

In mathematics, there was small group, individualized instruction. The activities were designed with consideration given to those skills not mastered as indicated on the criterion referenced pretest. The content of arithmetic was devoted to the teaching, reteaching, and review of those skills appropriate to the learners competencies and grade level.

Since the district participated in the Summer Feeding Program operation and since the district supports the 1972 recommendation of the National Advisory Council on Child Nutrition which favors "....nutrition education as a curriculum component for all grades in elementary school...." the district used activities and lessons in health and nutrition. The range of activities was wide: a tasting party; individual or class notebooks or cookbooks; a talk on foods by someone in the class or community who has lived in another country (listening skill reinforcement and oral communication). To enhance specific skills there were opportunities in arithmetic to figure out costs of foods, make change, take measurements of heights and weights. To develop communication skills there were group discussions, individual reports (oral or written) writing poetry (about breakfast, for example); developing a food vocabulary, reading labels on cereal boxes, consumerism. The classroom teachers expanded upon the ideas given above and integrated Health and Nutrition activities along with their remedial instruction in reading and mathematics.

Schedule

All pupils received three hours of instruction per day, 1½ hours in reading and 1½ hours in mathematics, five days per week while the summer program

was in session.

Supervisory

The summer school coordinator: met with the Supervisors prior to the beginning of summer session to discuss the proposal as submitted for approval (copies were distributed); visited each site; insured testing procedures were understood and implemented successfully; assisted and supported the efforts and commitment of the Supervisors to conduct a sound educational summer program.

There was one licensed Supervisor, Assistant Principal, for each site. The Supervisor was responsible for ensuring that teachers carried out the instructional program in a manner designed to remediate identified educational deficiencies. The Supervisor examined pupil growth on a regular basis, and was supportive of and familiar with the instructional design being implemented by the teacher. The Supervisor visited each classroom regularly and assisted the classroom teacher in any phase of the program (in terms of curriculum/content) in which they could lend expertise.

They provided assistance in carrying out all phases of office management necessary to the summer program. They spent a maximum of time in classrooms with teachers and children.

Staff Training

The staff training included the following: methodology utilized in determining pupil deficiencies; activities used for remediation; testing procedures and analysis. The pre-service training was conducted by district personnel with expertise and qualifications in reading and mathematics.

IV. EVALUATION

Process Evaluation

Examination of Table II indicates that the program operated in a very effective manner. There were a minimal number of ratings in the "poor" category and the majority of ratings in each area were in the "excellent" or "very good" categories. Nine of the ten areas had 75% or more of the ratings in the "excellent" or "very good" categories. This component of the evaluation indicates that a highly productive program was implemented. The creation of a positive learning environment and the use of direct experience were particularly enhanced during the program.

Product Evaluation

The quantitative evaluation of the program was completed seaparetely for each grade level. These results are presented in Tables III through IX. At the first grade level the nine of the ten reading objectives were mastered by at least 70% of the pupils and the six mathematics objectives were all mastered by at least 70% of the pupils.

At the second grade level the eight of the nine reading objectives were mastered by at least 70% of the pupils and five of the six mathematics objectives were mastered by at least 70% of the pupils.

At the third grade level all objectives in both reading and mathematics were mastered by at least 70% of the participants.

At the fourth grade level the eight reading objectives were all mastered by at leat 70% of the pupils and all of the four mathematics objectives were mastered by at least 70% of the pupils.

At the fifth grade level all objectives in both reading and mathematics were mastered by at least 70% of the pupils.

TABLE II

Ratings of the Summer School Program

	Distribution of ratings in %				
	5	4	3	2	1
1. A variety of grouping procedures are implemented.	30	40	30		
2. A Diagnostic/Prescriptive approach is used.	50	35	15		
3. Students are aware of their progress.	35	40	20	5	
4. A positive atmosphere is created.	70	15	10	5	
5. Direct experiences are emphasized.	50	25	25		
6. Sufficient materials are available.	40	30	30		
7. Appropriate questioning techniques are used.	50	30	20		
8. A variety of learning experiences are provided.	45	30	25		
9. Activities are well planned and organized	45	40	10	5	
10. General rating of the activities observed.	40	40	20		

Scale: 5 = excellent; 4 - very good; 3 = fair; 2 = poor; 1 = very poor

At the sixth grade level all objectives in both reading and mathematics were mastered by at least 70% of the participants.

At the seventh and eighth grade levels all objectives in both reading and mathematics were mastered by at least 70% of the participants.

At the ninth grade level three of six reading objectives were mastered by at least 70% of the pupils. Two of the remaining reading objectives were mastered by at leat 60% of the pupils the eight mathematics objectives were all mastered by at least 70% of the pupils

These results clearly indicate that a highly successful program was planned and implemented.

V. RECOMMENDATIONS

The following recommendations are submitted for consideration by the Community School District:

1. Recycling the program.
2. Identify summer school principals as early May as possible.
3. Identify summer school teachers as early as possible in June.
4. Notify sending schools as soon as the program is approved.
5. Set a definite class size limit in all grades.
6. Provide additional materials using teachers suggestions.
7. Survey the teachers employed in the program to determine pre-service and in-service training needs.
8. Provide each school with a petty cash fund of $100.00. This is needed to support the nutrition component of the program.
9. Encouragement should be given to use each local communities resources as sites for walking field trips.

TABLE III

Criterion Referenced Test Results for First Grade Pupils

Objective	Posttest - % Passing
Reading	
Sounds	76%
Word Definition	80%
Initial Consonants	82%
Consonant Substitution	72%
Final Consonants and Blends	72%
Vowels	76%
Comprehension	84%
Story Setting	62%
Sentence Sense	91%
Sequence	82%
Math	
Preoperational Concepts	92%
Counting	94%
Numberline	85%
Addition of Whole Numbers	75%
Subtraction of Whole Numbers	70%
Fractional Parts	92%

TABLE IV

Criterion Referenced Test Results for Second Grade Pupils

Objective	Posttest - % Passing
Reading	
Initial Consonants	74%
Consonant Substitution	72%
Final Consonants and Blends	76%
Vowels	84%
Word Definitions	78%
Sentence Structure and Comprehension	84%
Sequence	75%
Story Detail	72%
Story Setting	58%
Math	
Preoperational Concepts	100%
Missing Addend	64%
Numberline	82%
Addition of Whole Numbers	86%
Subtraction of Whole Numbers	80%
Fractions	70%

TABLE V

Criterion Referenced Test Results for Third Grade Pupils

Objective	Posttest - % Passing
Reading	
Vowels	79%
Consonant Sounds	72%
Syllables	75%
Comprehension	81%
Story Setting	70%
Cause and Effect	86%
Rhyming Words	75%
Facts and Details	82%
Sequence	72%
Math	
Preoperational Concepts	91%
Renaming Numbers	100%
Numberline	80%
Addition of Whole Numbers	79%
Subtraction of Whole Numbers	73%
Place Value	82%
Multiplication	77%
Missing Addend	71%

TABLE VI

Criterion Referenced Test Results for Fourth Grade Pupils

Objective	Posttest - % Passing
Reading	
Consonants	88%
Vowels	84%
Facts and Details	80%
Predicting	90%
Main Ideas	72%
Conclusions	86%
Sequence	74%
Inference	80%
Math	
Addition - Multiple Digit	96%
Subtraction - Multiple Digit	85%
Fractions	90%
Multiplication	85%

TABLE VII

Criterion Referenced Test Results for Fifth Grade Pupils

Objective	Posttest - % Passing
Reading	
Variant Vowels	72%
Variant Sounds	75%
Facts and Details	72%
Phonetic Parts	80%
Main Ideas	75%
Drawing Conclusions	70%
Predicting	75%
Sequence	80%
Pronouns	75%
Math	
Subtraction - Multiple Digit	80%
Multiplication - Multiple Digit	88%
Division	72%
Fractions	83%
Mathematical Properties	80%

TABLE VIII

Criterion Referenced Test Results for Sixth Grade Pupils

Objective	Posttest - %Passing
Reading	
Phonetic Parts, Variant Sounds	81%
Phonetic Parts, Blending	84%
Cause and Effect	88%
Inference	88%
Math	
Number Sequences	88%
Division	79%
Fractions	79%
Decimals	88%
Mathematical Relationships	96%

TABLE IX

Criterion Referenced Test Results for Seventh Grade Pupils

Objective	Posttest - % Passing
Reading	
Affixes	95%
Story Detail	83%
Event Sequence	85%
Story Setting	72%
Drawing Conclusions	75%
Predicting	70%
Punctuation	72%
Math	
Fractions - Addition	84%
Fractions - Subtration	92%
Subtraction of Decimal Numbers	98%
Sequences	97%
Relationships	89%
Commutative Property	81%
Division	87%
Subtraction (3 and 4 digit)	95%
Estimations	72%

TABLE X

Criterion Referenced Test Results for Eighth Grade Pupils

Objectives	Posttest - % Passing
Reading	
Affixes	82%
Pronouns	74%
Cause and Effect	71%
Drawing Inferences	79%
Use of Context	79%
Main Ideas	72%
Understanding Characterizations	86%
Math	
Fractions - Addition	93%
Fractions - Subtraction	95%
Subtraction of Decimal Numbers	74%
Sequences	72%
Relationships	81%
Commutative Property	70%
Division	80%
Estimation	72%

TABLE XI

Criterion Referenced Test Results for Ninth Grade Pupils

Objective	Posttest - % Passing
Reading	
Word Meaning	72%
Prediction	83%
Drawing Conclusions	71%
Inference	67%
Main Idea	61%
Character Analysis	50%
Math	
Subtraction of Unlike Fractions	100%
Subtraction of Mixed Numbers	78%
Equivalent Decimals	70%
Addition (1000's)	78%
Column Addition	100%
Repeated Addition	100%
Subtraction (3 digit)	80%
Subtraction (4 digit)	80%